

DOCUMENT RESUME

ED 371 631

FL 022 283

AUTHOR Law, Tim
TITLE The Academic Bilingual and Career Upgrading System
(Project ABACUS). Final Evaluation Report, 1992-93.
OER Report.
INSTITUTION New York City Board of Education, Brooklyn, NY.
Office of Research, Evaluation, and Assessment.
PUB DATE 13 Sep 93
CONTRACT T003A90093
NOTE 58p.
PUB TYPE Reports - Evaluative/Feasibility (142)

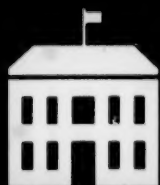
EDRS PRICE MF01/PC03 Plus Postage.
DESCRIPTORS Attendance Patterns; Bilingual Education Programs;
*Career Exploration; Chinese; Citizenship Education;
Cultural Awareness; Dropout Prevention; Educational
Attitudes; *English (Second Language); Federal Aid;
Federal Programs; High Schools; Inservice Teacher
Education; Korean; *Limited English Speaking;
Mathematics Instruction; Multicultural Education;
*Native Language Instruction; Parent Participation;
Program Effectiveness; Program Evaluation; Science
Instruction; Second Language Instruction; Social
Studies; Spanish; Staff Development; Transitional
Programs; Vocational Education
IDENTIFIERS New York City Board of Education

ABSTRACT

The Academic Bilingual and Career Upgrading System (Project ABACUS) was a federally-funded program in its fourth year at two Brooklyn and one Queens (New York) high schools. The program served 475 limited-English-speaking students who were native speakers of Chinese, Korean, and Spanish. Students received instruction in English as a second language (ESL), native language arts (NLA), science, mathematics, and social studies, and pre-vocational training in business-, law-, or health-related careers in the students' native language. Multicultural education, staff development, and parent participation were also program components. Project ABACUS met its objectives for Chinese and Korean NLA, content area subjects, American culture and citizenship, cultural heritage, school attitude improvement, career advisement, career development, dropout prevention, attendance, and increase in staff awareness of student needs and problems. It partially met its objective for parent involvement. It failed to meet objectives for ESL and staff ongoing education. Data to assess achievement of the Spanish NLA objective was unavailable. Recommendations for program improvement include: improved ESL instruction; stimulation of staff interest in college course enrollment; and encouragement of parent attendance at school open houses. (MSE)

* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *

ED 371 631



OER Report

The Academic Bilingual and Career Upgrading System
(Project ABACUS)
Transitional Bilingual Education Grant T003A90093
FINAL EVALUATION REPORT
1992-93

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION
CENTER (ERIC)

☒ This document has been reproduced as
received from the person or organization
originating it.

☐ Minor changes have been made to improve
reproduction quality.

• Points of view or opinions stated in this docu-
ment do not necessarily represent official
OERI position or policy.

"PERMISSION TO REPRODUCE THIS
MATERIAL HAS BEEN GRANTED BY

Robert
Lobias

TO THE EDUCATIONAL RESOURCES
INFORMATION CENTER (ERIC)."

FL022283

BEST COPY AVAILABLE

FL

The Academic Bilingual and Career Upgrading System
(Project ABACUS)
Transitional Bilingual Education Grant T003A90093
FINAL EVALUATION REPORT
1992-93

Mr. Tim Law, Project Director
1171 65th Street, Room 505
Brooklyn, NY 11219
(718) 236-3427



NEW YORK CITY BOARD OF EDUCATION

Carol A. Gresser
President

Irene H. Impellizzeri
Vice President

Victor Gotbaum
Michael J. Petrides
Luis O. Reyes
Ninfa Segarra-Vélez
Dennis M. Walcott
Members

Andrea Schlesinger
Student Advisory Member

Ramon C. Cortines
Chancellor

9/13/93

It is the policy of the New York City Board of Education not to discriminate on the basis of race, color, creed, religion, national origin, age, handicapping condition, marital status, sexual orientation, or sex in its educational programs, activities, and employment policies, and to maintain an environment free of sexual harassment, as required by law. Inquiries regarding compliance with appropriate laws may be directed to Mercedes A. Nesfield, Director, Office of Equal Opportunity, 110 Livingston Street, Room 601, Brooklyn, New York 11201, Telephone: (718) 935-3520.

EXECUTIVE SUMMARY

Academic Bilingual and Career Upgrading System (Project ABACUS) was an Elementary and Secondary Education Act (E.S.E.A.) Title VII-funded project in its fourth year of operation at Franklin Delano Roosevelt High School and New Utrecht High School, both in Brooklyn, and at William C. Bryant High School in Queens. In the year under review, Project ABACUS served 475 students of limited English proficiency (LEP) who were native speakers of Chinese, Korean, or Spanish. Participating students received instruction in English as a second language (E.S.L.) and native language arts (N.L.A.), as well as in the content areas of science, mathematics, and social studies. The project also offered preoccupational training in business-, law-, or health-related careers in the students' native language. Multicultural education was an integral part of the programming. Classes in art, music, and physical education were offered in the mainstream, so as not to isolate project participants from the rest of the school body.

Teachers of participating students had the opportunity to attend regularly scheduled staff development meetings. The project also reimbursed tuition for staff taking bilingual and E.S.L. education courses at the undergraduate or graduate level.

Project ABACUS sought to establish an active parental component, which included a Parent's Advisory Committee, guest speakers, and E.S.L. classes for parents and adult siblings of project students.

Project ABACUS met its objectives for Chinese and Korean N.L.A., content area subjects, American culture and citizenship, cultural heritage, improvement in attitude towards school, career advisement, career development, dropout prevention, attendance, and increased staff awareness of pupil needs and problems. The project partially met its objective for parental involvement. Project ABACUS failed to meet its objectives for E.S.L. and staff development for ongoing education. The Office of Research, Evaluation, and Assessment (OREA) could not evaluate the N.L.A. objective for Spanish-speaking students as specified in the original evaluation design, because the project did not provide the required data.

The conclusions, based on the findings of this evaluation, lead to the following recommendations to the project:

- **Assess** reasons for the lack of growth in participants' English language skills. Consider offering intensive E.S.L. on the literacy levels, particularly for recent immigrants.

- Attempt to stimulate staff interest in enrolling in university courses.
- Encourage parent attendance at Open School Day/Evening at William C. Bryant High School by having program staff telephone the parents of participating students and invite them to attend.

ACKNOWLEDGEMENTS

This report has been prepared by the Bilingual, Multicultural, and Early Childhood Evaluation Unit of the Office of Educational Research. Thanks are due to Ms. Candice Clarke for collecting the data and writing the report.

Additional copies of this report are available from:

Dr. Tomi Deutsch Berney
Office of Educational Research
Board of Education of the City of New York
110 Livingston Street, Room 732
Brooklyn, NY 11201
(718) 935-3790 FAX (718) 935-5490

TABLE OF CONTENTS

	<u>PAGE</u>
I. INTRODUCTION	1
Project Context	1
Student Characteristics	3
Project Objectives	6
Project Implementation	8
Parent and Community Involvement Activities	14
II. EVALUATION METHODOLOGY	15
Evaluation Design	15
Instruments of Measurement	16
Data Collection and Analysis	17
III. FINDINGS	20
Participants' Educational Progress	20
Former Participants' Academic Progress in	
English Language Classrooms	25
Overall Educational Progress Achieved Through Project	25
Case History	33
Staff Development Outcomes	34
Curriculum Development	35
Parental Involvement Outcomes	35
IV. SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS	38
Achievement of Objectives	38
Most and Least Effective Components	39
Recommendations to Enhance Project Effectiveness	39
APPENDIX A Instructional Materials	40
APPENDIX B Class Schedules	44
APPENDIX C Likert Scales	46

LIST OF TABLES

	<u>PAGE</u>
TABLE 1 Number of Students in Project ABACUS, by Site and Grade	3
TABLE 2 Students' Native Languages	4
TABLE 3 Students' Countries of Origin	5
TABLE 4 Project Staff Qualifications	12
TABLE 5 Pretest/Posttest N.C.E. Differences on the Language Assessment Battery, by Site	22
TABLE 6 Passing Grades in Native Language Arts, by Language	24
TABLE 7 Passing Grades in Content Area Courses, by Site	26
TABLE 8 Attendance Rates, by Site	32

I. INTRODUCTION

This report documents the Office of Research, Evaluation, and Assessment's (OREA's) evaluation of the Elementary and Secondary Education Act (E.S.E.A.) Title VII-funded project, Academic Bilingual and Career Upgrading System (Project ABACUS).

PROJECT CONTEXT

The program operated at Franklin D. Roosevelt and New Utrecht High Schools, both in Brooklyn, and at William C. Bryant High School in Queens. The community surrounding New Utrecht High School was made up of a diverse array of ethnic backgrounds. Residents were typically recent immigrants from the People's Republic of China, Hong Kong, Taiwan, Puerto Rico, and a number of South American countries. Much of the population around the school were low-income families. Of the 2,673 students registered at New Utrecht High School, 59 percent (1,577) were European-American, 21 percent (561) were African-American, 11 percent (294) were Asian-American, 9 percent (240) were Latino, and under 1 percent were Native American*. Thirteen percent (347) of these students were of limited English proficiency (LEP), and 26 percent came from low-income families.

Franklin Delano Roosevelt High School had a student population of 3,528 which was 51 percent (1,799) European-American, 31 percent (1,094) Latino, and 18 percent (635) Asian-American. LEP students accounted for 30 percent (1,069) of the

*Percentages do not add up to 100 due to rounding.

The western part of Queens—where the third project site, William C. Bryant High School was located—had experienced substantial demographic changes in recent years as a result of an influx of Chinese and Korean-speaking immigrants. The community had a large number of Latinos and Asian-Americans, of which a smaller proportion were African-or European-Americans. Most were low-income families.

The student population at William C. Bryant High School was representative of the surrounding community. Of the 3,006 students registered, 37 percent (1,123) were Latino, 28 percent (850) were European-American, 25 percent (760) were Asian-American, and 9 percent (273) were African-American*. LEP students accounted for 28 percent (850) of the total student body, and 21 percent of the student population came from low-income families.

New Utrecht High School was housed in a building constructed in 1924. Although the building itself was in a relatively good state of repair, the grounds surrounding the school were littered and unkempt. Inside the school, hallways were noisy and crowded, although walls did have significant displays of students' work. Classrooms were bright and spacious, but here the walls were quite bare, and classroom facilities—desks, chairs, etc.—were in need of repair.

Constructed in 1965, Franklin D. Roosevelt High School's overall appearance showed evidence of considerable deterioration. Hallways, however, were quiet and well-lit. Bulletin boards were decorated with student artwork and notices about student organizations on campus. Classrooms were clean and in a good state of repair, and

*Percentages do not add up to 100 due to rounding.

organizations on campus. Classrooms were clean and in a good state of repair, and students' work was on display along with maps, posters, and charts in both Spanish and Chinese.

William C. Bryant High School was constructed in the late 1930s. The overall outside appearance of the school was good. Inside, classrooms and hallways were quiet and bright, with student displays appropriate to the season.

STUDENT CHARACTERISTICS

Project ABACUS served 475 Chinese-, Korean-, and Spanish-speaking LEP students in ninth through twelfth grades. (See Table 1.) Scores at or below the 40th percentile on the Language Assessment Battery (LAB) determined LEP status. Many students were recent immigrants. Students were selected for project participation after being interviewed and recommended by teachers.

TABLE 1

Number of Students in Project ABACUS, by Site and Grade

Site	Grade 9	Grade 10	Grade 11	Grade 12	Total
Franklin D. Roosevelt	58	42	23	2	125
New Utrecht High School	27	47	35	30	139
William C. Bryant High School	28	65	74	44	211
Total	113	154	132	76	475

The project served a total of 475 students; male students numbered 244 (51.4 percent) and female 231 (48.6 percent). Over half the students (57.5 percent) spoke Chinese. (See Table 2 for students' native languages.)

TABLE 2
Students' Native Languages

Language	Number of Students
Cantonese	186
Korean	103
Mandarin	88
Spanish	65
Vietnamese	3
Unreported	30
Total	475

The majority of participants (41.7 percent) were born in China. The next largest group (21.5 percent) was from Korea. The remainder came from various Asian and South American countries. (See Table 3.) Most participants (66.5 percent) came from low-income families and were eligible for the free-lunch program.

Participants in the project generally had little or no formal education in their homeland. Many students were from poor, rural areas in their homeland, and often had immigrated for political and economic reasons.

TABLE 3

Students' Countries of Origin

Country	Number of Students
China	198
Korea	102
Hong Kong	51
Dominican Republic	18
Taiwan	16
Mexico	7
Panama	7
Puerto Rico	7
Ecuador	6
El Salvador	5
Costa Rica	3
Malaysia	3
Vietnam	3
Argentina	2
Chile	2
Guatemala	2
Honduras	2
Barbados	1
Bolivia	1
Cambodia	1
Colombia	1
Guyana	1
Italy	1
Unreported	35
Total	475

Needs Assessment

Before instituting the project, the project staff conducted a needs assessment of the target students, their families, and the educational staff who were to serve them. The data obtained from the survey indicated five primary needs:

- to provide LEP students with intensive English language instruction;
- to reinforce and develop these students' native language skills;
- to offer content area instruction and support services to promote bilingual excellence through individualized and interdisciplinary instruction according to the needs, ability, and career goals of each student;
- to train staff to be aware of the needs and problems of bilingual students and become more effective and skilled as bilingual educators and administrators; and
- to provide parents of project students with English as a second language (E.S.L.) classes and workshops designed to familiarize parents with the educational system, thereby enlisting parents' meaningful participation in both their children's education and Project ABACUS.

PROJECT OBJECTIVES

Student Objectives

- Seventy percent of the target students will demonstrate an appropriate increase in English language proficiency.
- Seventy-five percent of the Spanish-dominant participants will demonstrate an increase in Spanish achievement as shown by El Examen de Lectura en Español (ELE).
- Seventy-five percent of the Chinese-dominant participants will demonstrate an increase in Chinese achievement as indicated by results on a teacher-made test.

- Seventy-five percent of the Korean-dominant participants will demonstrate an increase in Korean achievement as indicated by results on a teacher-made test.
- At least 70 percent of all target students will score at or above the passing criterion of 65 in the subject areas—social studies, mathematics, and science.
- The program will organize at least two field trips for the targeted students at the three school sites to increase their familiarity with American culture and citizenship.
- Seventy-five percent of all target students will demonstrate an improvement in attitude toward their cultural heritage as indicated by an appropriate Language Cultural Heritage Attitude Scale.
- Seventy-five percent of all target students will demonstrate an improvement in attitude toward school, as indicated by results on a 5-point scale inventory measuring students' interest in continuing education beyond their present grade.
- All graduating students will meet with the bilingual career specialists for advisement at least three times during the school year.
- The program will organize at least one conference for students in which representatives of business and industry will present information on career options and skills requirements.
- Program students will have significantly lower dropout rates than similar non-program students.
- Program students will have significantly higher attendance rates than that of mainstream students.

Staff Development Objectives

- Eighty percent of the staff in the program will demonstrate an increase in awareness of pupil needs and pupil problems as indicated by a 5-point scale of problems and needs inventory.
- Ninety percent of program staff members will enroll in at least one university course each semester.

Parental Involvement Objective

- The proportion of program students' parents who participate in Open School Day/Evening will be equal to or greater than the proportion of mainstream students' parents who participate in this activity.

PROJECT IMPLEMENTATION

During the 1992-93 school year, Project ABACUS provided instructional and support services to 475 Spanish-, Chinese-, and Korean-speaking LEP students and their families. The project's main goals were to assist these students to achieve their educational and occupational aspirations by increasing their skills in English, their native language, and the content areas.

Project staff participated in monthly staff development meetings and school and citywide conferences. Throughout the year, project staff also undertook curriculum development activities. Four project staff members enrolled in college courses, for which they received tuition assistance.

Parental involvement activities included a Parents' Advisory Committee (PAC), afternoon and evening E.S.L. classes, and workshops.

Materials, Methods, and Techniques

Franklin D. Roosevelt High School offered E.S.L. at literacy through transitional levels and N.L.A. at literacy through advanced levels. New Utrecht High School offered both E.S.L. and N.L.A. at beginning through advanced levels. Project students at William C. Bryant High School could enroll in E.S.L. at beginning through transitional levels, and in N.L.A. from beginning through advanced levels.

At each site, students received content area instruction in their native language and in English. Native language percentages were: Franklin D. Roosevelt High School, Chinese for 70 percent of each class; at New Utrecht High School, Chinese or Spanish for 40 percent of each period; at William C. Bryant High School, Korean for 40 percent or Chinese for 60 percent of the time in social studies; for science and mathematics, Chinese or Korean was used for 30 percent of the period.

Occupational instruction was in the student's native language.

Teachers used a diagnostic-prescriptive approach to individualize instruction and to encourage self-direction. At Franklin D. Roosevelt High School, techniques and strategies in E.S.L. and N.L.A. involved the use of whole language and cooperative learning approaches. E.S.L. teachers also relied on the use of the Plato program—computer assisted instruction (C.A.I.) for all E.S.L. levels—and audiovisual equipment. E.S.L. strategies at New Utrecht High School focused on multisensory, individualized instruction and cooperative learning, while N.L.A. strategies emphasized communicative and cooperative learning. E.S.L. teachers at William C. Bryant High School emphasized cooperative learning, K.W.L. (*What do you know? What do you want to know? What did you learn?*), and audiovisual aids. In N.L.A., teachers used a whole language approach and the cognitive academic learning approach (CALA).

The project incorporated a strong cultural component into the curriculum in order to promote an understanding of the different cultures represented by participants.

The project director reported that at New Utrecht High School in the year under review, Project ABACUS had an innovative computer program called "MetroGuide," a career and college program that helped students find information on any college or university in the United States. Approximately 20 project students at New Utrecht High School also participated in a work-study program.

During the 1992-93 school year, Project ABACUS developed a pamphlet in Chinese, Korean, and Spanish that described the philosophy, goals, and design of the program. This was disseminated to parents, school staff, community agencies, and others.

For a list of instructional materials used in the project, please see Appendix A.

Capacity Building

Franklin D. Roosevelt High School, New Utrecht High School, and William C. Bryant High School plan to assume full cost of programming next year, since the 1993-94 school year will be the fifth and final year of the program.

Staff Qualifications

Title VII staff. The project director and three paraprofessionals were fully funded by Title VII. Three resource specialists and one bilingual education teacher were partly funded by Title VII and partly by tax-levy funds. The project director, two paraprofessionals, one resource specialist, and the project coordinator were native speakers of Chinese. One paraprofessional and one resource specialist were native speakers of Korean and Spanish, respectively. For a description of degrees held and

language proficiency (teaching or communicative*), see Table 4.

The project director was responsible for the overall administration and supervision of the project. His duties included coordinating activities, selecting and training staff, conducting workshops for project staff, ensuring parental and community involvement in the project, and providing evaluation data. The director had 15 years of experience in bilingual, multicultural, and E.S.L. education.

The resource specialists' responsibilities were to plan, organize, and direct the orientation, interviewing, testing, and placement of students in the program; to establish and maintain a bilingual career center at each site; to provide academic and career counseling and college advisement to project students; and to serve as a liaison between project and other staff and parents. In addition, the resource specialists were responsible for the evaluation of new commercially prepared instructional materials and the development of additional bilingual materials for use in the program. Each resource specialist had at least four years of experience.

The paraprofessionals' responsibilities were to assist the resource specialist with student assessments and the administration of tests, to serve as a translator for students and parents, and to assist in the recruitment of new students. Each paraprofessional had over five years of experience with LEP students.

*Teaching proficiency (TP) is defined as the ability to use LEP students' native language in teaching language arts or other academic subjects. Communicative proficiency (CP) is defined as a non-native speaker's basic ability to communicate and interact with students in their native language.

TABLE 4

Project Staff Qualifications

Position Title	Degree(s)	Language Competence
Project Director	P.D.	Mandarin (TP) Cantonese (TP) Hakka (TP)
Resource Specialist	B.A.	Mandarin (TP)
Resource Specialist	M.S.	Mandarin (TP) Cantonese (TP)
Resource Specialist	M.A.	Spanish (TP)
Teacher	M.A.	Spanish (TP) Italian (TP)
Paraprofessional	H.S.	Mandarin (CP) Cantonese (CP)
Paraprofessional	A.A.	Cantonese (CP) Vietnamese (CP)
Paraprofessional	H.S.	Korean (CP)

Other staff. Tax-levy funds paid the salaries of the 87 teachers and four paraprofessionals who provided instructional services to project students. Eleven teachers were teaching proficient in Chinese, three in Korean, and four in Spanish. Seventy-eight teachers held master's degrees, four held doctorates, and five held bachelor's degrees. All teachers held high school certification for the area in which they taught. Forty-nine teachers had received training in bilingual or E.S.L. education. Teachers' experience varied from two to more than 20 years.

Staff development. Tuition assistance for bilingual or E.S.L. college courses was provided to four project staff members. Teachers of participating students also participated in a series of weekly and monthly activities organized by the project director and the resource specialist at each site. Workshops focused on E.S.L. and content area methodologies used with LEP students.

Instructional Time Spent on Particular Tasks

See Appendix B for examples of class schedules.

Length of Time Participants Received Instruction

Students had a mean of 7.8 years (s.d.=1.4) of education in a non-English-speaking school system and 2.4 years (s.d.=1.4) of education in the United States. The median amount of time students participated in Project ABACUS was 15 months.

Activities to Improve Pre-referral Evaluation Procedures for Exceptional Children

At both Franklin D. Roosevelt High School and William C. Bryant High School, students thought to be in need of special education were referred by teachers to the School-based Support Team (S.B.S.T.). At New Utrecht High School, classroom teachers referred students thought to be in need of special education services to the school guidance counselor who then made referrals as necessary to the S.B.S.T. New Utrecht High School utilized the services of one Spanish-speaking paraprofessional. Neither William C. Bryant nor Franklin D. Roosevelt High Schools reported any bilingual S.B.S.T. members; project staff translated as necessary.

Instructional Services for Students with Special Needs

The project reported that there were no disabled students in the program. Had there been any, however, they would have been enrolled in special education programs available at each school.

At both Franklin D. Roosevelt High School and William C. Bryant High School, gifted and talented students were recommended to special after-school programs, such as advanced mathematics tutoring and advanced E.S.L. workshops, which were conducted by project staff and peer tutors. At New Utrecht High School, gifted and talented students participated in honors classes in the content areas and were eligible to participate in a "World Academy" program for high achievers. Lunchtime and after-school enrichment activities were available two or three times per week.

PARENT AND COMMUNITY INVOLVEMENT ACTIVITIES

The project sponsored a wide variety of parental and community involvement activities that included a PAC, afternoon and evening E.S.L. classes, and parent training workshops.

II. EVALUATION METHODOLOGY

EVALUATION DESIGN

Project Group's Educational Progress as Compared to That of an Appropriate Non-Project Group

OREA used a gap reduction design to evaluate the effect of language instruction on project students' performance on standardized tests. Because of the difficulty in finding a valid comparison group, OREA used instead the groups on which the tests were normed. Test scores are reported in Normal Curve Equivalents (N.C.E.s), which are normalized standard scores with a mean of 50 and a standard deviation of 21.1. It is assumed that the norm group has a zero gain in N.C.E.s in the absence of supplementary instruction and that participating students' gains are attributable to project services.

Applicability of Conclusions to All Persons Served by Project

Data were collected from all participating students for whom there were pre- and posttest scores. (There were no pretest data on students who entered the program late; therefore, posttest data for them will serve as pretest data for the following year.) Instruments used to measure educational progress were appropriate for the students involved. The LAB and El Examen de Lectura en Español (ELE) are used throughout New York City to assess the growth of English and Spanish skills in populations similar to those served by Project ABACUS.

INSTRUMENTS OF MEASUREMENT

OREA compared pre- and posttest scores on the LAB to assess the E.S.L. objective and the ELE to assess the Spanish N.L.A. objective. The N.L.A. objectives for Chinese- and Korean-speaking students, along with the content area objectives for mathematics, science, and social studies, were assessed through teacher-made tests and course grades, as specified.

All students were tested at the appropriate grade level. The language of the LAB and ELE was determined by the test itself.

According to the publishers' test manuals, all standardized tests used to gauge project students' progress are valid and reliable. Evidence supporting both content and construct validity is available for the LAB. Content validity is confirmed by an item-objective match and includes grade-by-grade item difficulties, correlations between subtests, and the relationship between the performance of students who are native speakers of English and students who are LEP. To support reliability, the Kuder-Richardson Formula 20 (KR20) coefficients and standard errors of measurement (SEM) are reported by grade and by form for each subtest and total test. Grade reliability coefficients, based on the performance of LEP students on the English version, ranged from .88 to .96 for individual subtests and from .95 to .98 for the total test.

The ELE was prepared by New York City educators who were native speakers of Spanish and represented several Latino linguistic and cultural groups. The ELE was administered in two forms to all New York City students who were receiving

language arts instruction in Spanish. For form 1, the grade reliability coefficients ranged from .94 to .96. Comparable data for form 2 will be generated as soon as possible after its administration in the spring of 1993. Items on the test were grade-specific. Construct validity is evidenced by grade-to-grade decreases in item difficulty within level. This characteristic reflects the acquisition of increased amounts of the underlying construct (reading proficiency) as students progress through the grades.

To assess the growth of students' appreciation of their cultural heritage, OREA developed a Likert-type questionnaire which project personnel administered to all participating students. (See Appendix C.)

To assess the improvement in project students' attitude towards school, OREA developed a Likert-type questionnaire which project personnel administered to all participating students. (See Appendix C.)

To assess the staff development objective for staff awareness of pupil needs and problems, OREA developed and distributed Likert-type evaluation questionnaires for teachers to rate the extent to which staff development activities had contributed to an increase in their awareness of students' problems and needs. (See Appendix C.)

DATA COLLECTION AND ANALYSIS

Data Collection

To gather qualitative data, an OREA evaluation consultant carried out on-site and telephone interviews with the project director several times during the school year and also observed two classes on each of two visits. The project evaluator

collected the data and prepared the final evaluation report in accordance with the New York State E.S.E.A. Title VII Bilingual Education Final Evaluation Report format, which was adapted from a checklist developed by the staff of the Evaluation Assistance Center (EAC) East in consultation with the Office of Bilingual Education and Minority Language Affairs (OBEMLA).

Proper Administration of Instruments

Qualified personnel received training in testing procedures and administered the tests. Test administrators followed guidelines set forth in the manuals accompanying standardized tests. Time limits for subtests were adhered to; directions were given exactly as presented in the manual.

Testing at Twelve-Month Intervals

Standardized tests were given at 12-month intervals, following published norming dates.

Data Analysis

Accurate scoring and transcription of results. Scoring, score conversions, and data processing were accomplished electronically by the Scan Center of the Board of Education of the City of New York. Data provided by the Scan Center were analyzed in the Bilingual, Multicultural, and Early Childhood Evaluation Unit of OREA. Data collectors, processors, and analysts were unbiased and had no vested interest in the success of the project.

Use of analyses and reporting procedures appropriate for obtained data. To report the percent of students showing an appropriate increase in English language

skills, OREA reported the percentage of students who showed a gain from pretest to posttest on the LAB. To assess the significance of students' achievement in English OREA computed correlated *t*-tests on the LAB N.C.E. scores. The *t*-test determined whether the difference between the pre- and posttest scores was significantly greater than would be expected from chance variation alone.

The only possible threat to the validity of any of the above instruments might be that LAB norms were based on the performance of English Proficient (EP) rather than LEP students. Since OREA was examining gains, however, this threat was inconsequential—the choice of norming groups should not affect the existence of gains.

III. FINDINGS

PARTICIPANTS' EDUCATIONAL PROGRESS

Project ABACUS carried out all instructional activities specified in its original design.

Participants Progress in English

Throughout the school year, students had ample opportunity to develop their English language skills.

An OREA evaluation consultant observed an E.S.L. class at Franklin D. Roosevelt High School. The class began with a lesson on using active and passive voice and changing from one verb tense to another. The teacher wrote examples taken from the text *Turning Points* on the board. After reading the sentence aloud in English, the teacher asked students to conjugate the verb. Following this, the teacher demonstrated the combination of the past participle and qualifiers such as *shouldn't*, *in case*, *so that*, and *because*. The teacher then wrote sentences on the board in English and asked individual students to come to the blackboard and to rewrite the sentence using an appropriate qualifier.

The last part of the lesson focused on developing skills related to identifying instructions in a real context. The teacher employed a cooperative learning strategy. Students received photocopies of a *New York Times* newspaper article that discussed the steps one should take in the aftermath of a house fire. The article was read aloud by teacher and students one paragraph at a time. The teacher then asked the students to identify and underline instructions in the text which were

phrased in the active voice and to rewrite these sentences using the passive voice. Students worked in groups of two or three while the E.S.L. teacher, and a paraprofessional visited each group.

The evaluation objective for E.S.L. was:

- Seventy percent of the target students will demonstrate an appropriate increase in English language proficiency.

There were complete pre- and posttest scores on the LAB for 335 students from grades nine through twelve. (See Table 5.) The mean gain of 5.8 N.C.E.s (s.d. = 10.2) was statistically significant and greater than it had been last year (3.3 N.C.E.s). However, only 62.1 percent of participating students made gains from pre- to posttest.

The project did not meet its E.S.L. objective this year. Last year, the project also failed to meet its E.S.L. objective.

Participants' Progress in Native Language Arts

The project had three evaluation objectives for N.L.A., one each for Spanish, Chinese, and Korean.

The N.L.A. objective for Spanish-speaking students was:

- Seventy-five percent of the Spanish dominant participants will demonstrate an increase in Spanish achievement as shown by El Examen de Lectura en Español (ELE).

Spanish-speaking students enrolled in Project ABACUS did not take the ELE. OREA, therefore, could not evaluate the objective as specified. However, native language skills were evaluated using a teacher-made test. The project reported

TABLE 5

Pretest/Posttest N.C.E. Differences on the
Language Assessment Battery, by Site

High School	Total number of project students	Number of students for whom data were available	Pretest		Posttest		Difference		t value
			Mean	S.D.	Mean	S.D.	Mean	S.D.	
F. D. Roosevelt	125	89	5.3	7.6	10.3	10.5	5.0	7.9	5.94*
New Utrecht	139	72	8.8	9.9	11.9	13.5	3.1	10.9	2.43*
William C. Bryant	211	174	15.1	12.6	22.6	15.6	7.4	10.8	9.07*
Total	475	335	11.1	11.7	17.0	15.1	5.8	10.2	10.44*

* $p < .05$

- Students overall and at all three sites had significant gains on the LAB.

Spanish N.L.A. data for 60 students during the fall and 57 during the spring. In both semesters all students passed. (See Table 6.)

The project met its N.L.A. objective for Spanish-speaking students, as it had in the previous year.

The N.L.A. objective for Chinese-speaking students was:

- Seventy-five percent of the Chinese-dominant participants will demonstrate an increase in Chinese achievement as indicated by results on a teacher-made test.

Over 90 percent of students passed their Chinese N.L.A. courses both semesters. (See Table 6.)

As in the previous year, the project met its N.L.A. objective for Chinese-speaking students.

The N.L.A. objective for Korean-speaking students was:

- Seventy-five percent of the Korean-dominant participants will demonstrate an increase in Korean achievement as indicated by results on a teacher-made test.

All the students passed their Korean N.L.A. courses in the fall semester and over 97 percent passed their Korean N.L.A. courses in the spring semester. (See Table 6.)

The project met its N.L.A. objective for Korean-speaking students. Last year, the project also met this objective.

TABLE 6

Passing Grades in Native Language Arts, by Language

Language	Fall		Spring	
	Number Enrolled	Percent Passing	Number Enrolled	Percent Passing
Spanish	60	100.0	57	100.0
Chinese	214	99.5	226	92.0
Korean	76	100.0	85	97.6

- Over 90 percent of all students passed their N.L.A. courses each semester.

LEP Participants' Academic Achievement

Content area instructional strategies focused on cooperative learning, group discussion, lectures, and career and college counseling. At all sites, content area courses were taught using a dual language approach. Teachers used a variety of instructional strategies including cooperative learning and peer tutoring.

An OREA evaluator observed a tenth grade biology class at New Utrecht High School. The lesson was about living cells, life functions, and the diseases caused by viruses. In the first ten minutes of the class, the teacher asked students in English and Chinese to name various essential life functions. Students volunteered responses in Chinese. The teacher then gave a brief lecture in English describing the characteristics of viruses. The teacher drew examples on the blackboard of various types of viruses that invade plants, bacteria, and human beings. This was followed by a description of the external and internal structures, given in English and Chinese.

In English, the teacher then asked students to define D.N.A., R.N.A., cytoplasm, etc. The teacher wrote the definitions and functions of these terms on the board in Chinese. Students asked questions in Chinese, and the teacher responded in Chinese. The last part of the lesson consisted of a teacher-directed group discussion—conducted mainly in English—concerning other important features of viruses.

The content area objective was:

- At least 70 percent of all target students will score at or above the passing criterion of 65 in the subject areas—social studies, mathematics, and science.

At all three sites at least 70 percent of participating students passed their content area subjects. (See Table 7.)

Project ABACUS met its objective for content area subjects, as it did last year.

FORMER PARTICIPANTS' ACADEMIC PROGRESS IN ENGLISH LANGUAGE CLASSROOMS

Data were not available on mainstreaming of former project participants.

OVERALL EDUCATIONAL PROGRESS ACHIEVED THROUGH PROJECT

American Culture and Citizenship

The project proposed one objective for increasing students' appreciation of American culture and citizenship:

- The program will organize at least two field trips for the targeted students at the three school sites to increase their familiarity with American culture and citizenship.

TABLE 7

Passing Grades in Content Area Courses, by Site

High School	Subject	Fall 1992		Spring 1993	
		Number of students for whom data were reported	Percent Passing	Number of students for whom data were reported	Percent Passing
Franklin D. Roosevelt	Mathematics	100	88.0	117	69.2
	Science	93	81.7	109	83.5
	Social Studies	98	81.6	124	84.7
New Utrecht	Mathematics	125	100.0	129	100.0
	Science	61	98.4	97	100.0
	Social Studies	124	100.0	123	100.0
William C. Bryant	Mathematics	168	97.6	165	97.6
	Science	160	93.8	153	93.5
	Social Studies	181	96.1	183	97.8

- Students at all sites had high passing rates in their content area courses.

Project ABACUS students at each school had the opportunity to participate in several field trips designed to instill pride in and respect for American traditions, and increase their familiarity with various aspects of life in the United States.

Project students at Franklin D. Roosevelt High School visited Boston, where they visited the Computer Museum, Harvard University, and the site of the Boston Tea Party. They also visited the United Nations in New York City. In spring 1993, participating students at New Utrecht High School visited Washington D.C., the United Nations, and Bear Mountain State Park. Project students at William C. Bryant High School visited Philadelphia and the Metropolitan Museum of Art in New York City.

As in the previous year, Project ABACUS met its objective for increasing familiarity with American culture and citizenship at all project sites.

Cultural Heritage

The project proposed one objective for students' appreciation of their cultural heritage:

- Seventy-five percent of all target students will demonstrate an improvement in attitude towards their cultural heritage as indicated by an appropriate Language Cultural Heritage Attitude Scale.

An important component of the program was increasing students' awareness and appreciation of their cultural heritage. In addition to incorporating a multicultural perspective into all content area subjects, N.L.A. teachers at Franklin D. Roosevelt High School, in particular, integrated aspects of Chinese and Spanish culture into their lessons.

Each school had newspapers, magazines, and other materials relating to Spanish, Chinese and/or Korean cultural traditions on display in the Title VII Resource Rooms. Each project site also invited parents and community members to speak to project students about the customs, mores, and traditions of various cultures. Spanish- and Chinese-speaking project students at New Utrecht High School participated in a schoolwide International Day.

OREA developed student surveys to assess the growth of cultural pride. It provided Project ABACUS with alternate forms of this survey in English, Spanish, and Chinese. The project returned 246 completed surveys to OREA. These surveys indicated that 99.2 percent of the students reported an increase in appreciation of their cultural heritage.

The project met its objective for students' appreciation of their cultural heritage. Project ABACUS failed to meet this objective last year.

Attitude Toward School

Project ABACUS proposed the following objective for attitude toward school:

- Seventy-five percent of all target students will demonstrate an improvement in attitude toward school, as indicated by results on a 5-point scale inventory measuring students' interest in continuing education beyond their present grade.

At each participating school, project staff conducted small-group counseling sessions and conferences on topics such as grade standards, graduation requirements, and developing a positive attitude toward school. In addition, Franklin D. Roosevelt High School invited guest speakers to address participating students on the important role that education plays in helping students achieve their career aspirations.

OREA developed student surveys in English, Spanish, and Chinese in order to assess the improvement in students' attitude toward school. Project ABACUS returned 246 completed surveys to OREA. The survey responses indicated that 97.6 percent of the students surveyed reported an improvement in their attitude.

The project met its objective for improvement in attitude toward school. Last year, Project ABACUS failed to meet this objective.

Career Advisement

The evaluation objective for career advisement was:

- All graduating students will meet with the bilingual career specialists for advisement at least three times during the school year.

Project students at New Utrecht and William C. Bryant High Schools met with Title VII resource specialists at least once a month during the fall semester. Students at these sites met with their respective resource specialists at least three times during the spring semester. At Franklin D. Roosevelt High School, each project student had at least one meeting with the resource specialist in the fall and two in the spring.

The project met its objective for career advisement, as it had done the previous year.

Career Development

The career development objective was:

- The program will organize at least one conference for students in which representatives of business and industry will present information on career options and skills requirements.

Project staff organized a College and Career Night for all project students on April 27, 1993 at Franklin D. Roosevelt High School. Representatives from city, state, and private colleges were in attendance. Graduating students had the opportunity to investigate the various options available to them at the college level, and other students were given the opportunity to investigate educational and occupational programs.

Project staff also planned to involve project students in a citywide career day, which was to be held at Long Island University in May. However, this function was canceled.

The project met its objective for career development, as it had done last year.

Grade Retention

Project ABACUS did not propose any objectives for grade retention. Two participating students (0.4 percent) were retained in grade.

Dropout Prevention

Project staff at all sites were actively involved in monitoring at-risk students' attendance and behavior in school. They wrote letters and made phone calls to parents when necessary and provided students with individual and group counseling, hoping to motivate them to stay in school.

At Franklin D. Roosevelt and New Utrecht High Schools, Project ABACUS invited Latino, Chinese, and Korean professionals to speak to project participants as role models. Project staff at Franklin D. Roosevelt High School also conducted small group

counseling sessions for at-risk students, while at New Utrecht High School, at-risk students received guidance and counseling from Title VII staff and S.B.S.T. members.

At William C. Bryant High School, Title VII staff members and guidance counselors collaborated with a school-based Dropout Prevention Program and school attendance officers to monitor students' performance.

Project ABACUS proposed the following dropout prevention objective:

- Program students will have significantly lower dropout rates than similar non-program students.

The dropout rate for project students at Franklin D. Roosevelt High School was 2.0 percent, compared to the schoolwide dropout rate of 6.5 percent. At New Utrecht High School, the dropout rate for participating students was 4.0 percent, compared with a schoolwide dropout rate of 8.0 percent. At William C. Bryant High School, the dropout rate for project students was 1.8 percent, compared with a schoolwide dropout rate of 8.0 percent. Participating students' dropout rates were significantly lower ($p < .05$) than schoolwide rates at all three project sites. In the previous year, no project students dropped out at either Franklin D. Roosevelt or William C. Bryant High Schools, while the dropout rate for participating students at New Utrecht High School had been 3.6 percent.

Project ABACUS met its objective for dropout prevention. Last year, the project met this objective.

Attendance

The project had one attendance objective:

- Program students will have significantly higher attendance rates than that of mainstream students.

Students' regular attendance was encouraged in a number of ways. All schools offered special awards and certificates to students with good attendance. They assigned special tasks to at-risk students to promote improved attendance. Absent students' parents were contacted by telephone and by letter, and counseling was provided to those students with a history of truancy.

At each project site, the attendance rate of participating students was significantly higher ($p < .05$) than the schoolwide rate. (See Table 8.) In the previous year, the attendance rates were 97.6 percent at Franklin D. Roosevelt High School, 91.1 percent at New Utrecht High School, and 96.4 percent at William C. Bryant High School.

As it had done last year, the project met its attendance objective.

TABLE 8

Attendance Rates, by Site

High School	Attendance Rates	
	Project Students	Schoolwide
Franklin D. Roosevelt	95.5	82.0
New Utrecht	94.1	87.6
William C. Bryant	98.5	90.0

Placement in Gifted and Talented Programs

No students were placed in a program for the gifted and talented this year.

Mainstreaming

No students were mainstreamed in the year under review, and no objective was proposed. In the previous year, five students (1.0 percent) were mainstreamed.

Enrollment in Postsecondary Education Institutions

One of the graduating students (0.2 percent) indicated that he would pursue enrollment in a postsecondary educational institution. In the previous year, one student had indicated that she would pursue her education beyond twelfth grade.

CASE HISTORY

J.L. came to the United States from Hong Kong in 1990 at age 15. She entered Franklin D. Roosevelt High School and was enrolled in Project ABACUS for one year. She transferred out of the bilingual program when she became a junior.

During J.L.'s stay at Franklin D. Roosevelt High School, she did exceptional academic work. When she graduated in 1992, she was one of the top ranking academic students among the graduating seniors. She was admitted to M.I.T. with a scholarship which covered most of her expenses.

J.L. worked very hard at her studies at Franklin D. Roosevelt High School and felt grateful for the assistance she received from Project ABACUS. She felt that without Project ABACUS, it would have taken her much longer to adjust to her new environment and to acquire competency in the English language.

STAFF DEVELOPMENT OUTCOMES

Staff Awareness of Pupil Needs and Problems

The project proposed the following objective for increased staff awareness of pupil needs and problems:

- Eighty percent of the staff in the program will demonstrate an increase in awareness of pupil needs and pupil problems as indicated by a 5-point scale of problems and needs inventory.

Project personnel and teachers of participating students took part in a series of workshops designed to address the specific problems and needs of bilingual students. Workshops focused on strategies to improve students' writing skills and self-esteem. Workshop topics also covered at-risk students, content area methodology, meeting the needs of the LEP students, and multiculturalism.

Project ABACUS distributed a Likert-type evaluation questionnaire to teachers and project staff at the end of the school year and submitted 25 completed questionnaires to OREA. Tabulating the results of this questionnaire revealed that 92 percent of respondents had increased their awareness of LEP pupils' problems and needs.

The project met its objective for increased staff awareness of pupil needs and problems, as it had done last year.

Staff Development for Ongoing Education

The project proposed the following staff development objective for ongoing education:

- Ninety percent of program staff members will enroll in at least one university course each semester.

One project staff member completed a college course in the fall and three project staff enrolled in college courses during the spring. No project staff, however, enrolled in college-level courses both semesters.

The project did not meet the staff development objective for ongoing education. It also failed to meet this objective in the previous year.

CURRICULUM DEVELOPMENT

Project staff at Franklin D. Roosevelt High School developed curriculum materials in social studies and adapted curricula for mathematics and science. Project staff at New Utrecht High School translated curricula for social studies and science. At William C. Bryant High School, project staff developed and adapted curricula in social studies and translated a curriculum handbook, *Exploring The Non-Western World*, for use in social studies classes. No objective was proposed for curriculum development.

PARENTAL INVOLVEMENT OUTCOMES

Activities to increase parental involvement in their children's education were an important part of Project ABACUS. Project staff attempted to involve parents by advertising parental activities on bulletin boards at each school, sending letters of invitation to parents in their native language, and making telephone calls to parents.

Each site established a PAC with approximately ten members. A Parents' Evening Skills Literacy Program was conducted at Franklin D. Roosevelt High School

and New Utrecht High School on a biweekly basis. Tax-levy E.S.L. teachers led the classes, which were open to parents and adult siblings of project participants.

Approximately 15 parents regularly attended the E.S.L. classes at Franklin D. Roosevelt High School, and 30 parents regularly attended classes at New Utrecht High School. E.S.L. strategies for parents emphasized individualized and group instruction; conversational skills; and basic reading, writing, and comprehension skills. Teachers used the texts *Side by Side* and *Step by Step* as well as audiovisual aids. Parents received counseling on how to find a job, the naturalization process, and the Constitution of the United States. Chinese-speaking parents were invited to activities sponsored by the Chinese American Voters Association of Brooklyn.

Project ABACUS encouraged the parents of participating students to make formal and informal visits to the school to meet with their children's teachers and project staff. Letters written in English, Spanish, Chinese, or Korean informed parents of Open School Day/Evening activities and encouraged their attendance.

Project ABACUS proposed one parental involvement objective:

- The proportion of program students' parents who participate in Open School Day/Evening will be equal to or greater than the proportion of mainstream students' parents who participate in this activity.

At Franklin D. Roosevelt High School, 80 percent of project students' parents and 70 percent of mainstream students' parents attended Open School Day/Evening; at New Utrecht High School, 78 percent of project students' parents and 74 percent of mainstream students' parents attended Open School Day/Evening; and at William

C. Bryant High School, 35 percent of program students' parents and 40 percent of mainstream students' parents attended Open School Day/Evening.

The project met its objective for parental involvement at Franklin D. Roosevelt High School and at New Utrecht High School, but failed to do so at William C. Bryant High School by a small margin. In the previous project year, the project met its parental involvement objective at Franklin D. Roosevelt High School and William C. Bryant High School, but failed to do so at New Utrecht High School.

IV. SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

ACHIEVEMENT OF OBJECTIVES

Project ABACUS met its objectives for Chinese and Korean N.L.A., content area subjects, American culture and citizenship, cultural heritage, attitude towards school, career advisement, career development, dropout prevention, attendance, and increased staff awareness of pupil needs and problems. The project partially met its objective for parental involvement. Project ABACUS failed to meet its objectives for E.S.L. and staff development for ongoing education. While OREA could not evaluate the N.L.A. objective for Spanish-speaking students because they did not take the required test, it was apparent from course passing rates that students gained proficiency in Spanish N.L.A.

Participating students in Project ABACUS showed academic progress. Of the 475 participating students, 473 (99.6 percent) were promoted to the next grade. The students showed gains in English, Spanish, Chinese, Korean, and the content area subjects, as indicated by exam results and final course grades. Although the expected percentage of students did not increase their LAB scores, the mean gain was statistically significant ($p < .05$) and was greater than it had been the previous year.

Project services not only benefited the students academically but also increased their awareness of the importance of education. The attendance rates of participating students were higher than those of nonparticipating students and the dropout rates of participating students were lower at all program sites. Students'

attitudes toward school and their own cultural heritage improved and they became more familiar with American culture and citizenship.

Teachers attended in-service workshops to increase their knowledge of LEP students. Parents became involved in the education of their children.

MOST AND LEAST EFFECTIVE COMPONENTS

Project ABACUS had a number of components which were highly effective, particularly N.L.A. and content area instruction. Learning about and appreciating their own and other's cultural heritage and improving participants' attitude toward school were two other very effective project components.

Least effective components of the project were staff development for ongoing education and parental involvement at one site. Although the project did not meet its objective for E.S.L., it showed gains over the previous year, and the mean gain shown by students was statistically significant ($p < .05$).

RECOMMENDATIONS TO ENHANCE PROJECT EFFECTIVENESS

The conclusions, based on the findings of this evaluation, lead to the following recommendations to the project:

- **Assess reasons for the lack of growth in participants' English language skills. Consider offering intensive E.S.L. on the literacy levels, particularly for recent immigrants.**
- **Attempt to stimulate staff interest in enrolling in university courses.**
- **Encourage parent attendance at Open School Day/Evening at William C. Bryant High School by having program staff telephone the parents of participating students and invite them to attend.**

APPENDIX A

Instructional Materials

E.S.L.

Grade	Title	Author	Publisher	Date of Publication
1-4	Side By Side 1-4	Molinsky & Bliss	Prentice-Hall	1989
1-3	Reading & Writing Skills for Beginning Level E.S.L.	Susan Siegel	N.Y.C. Board of Education	1986
2	New Beginning	Niedermeier	Prentice-Hall	1988
3	Reflections	S. Griffin & J. Dennis	Newbury House	1979
4-5	The World Anthology	Potter & Goodman	Globe Book Co., Inc.	1987
1-3	Globe Literature	*	Globe Book Co., Inc.	1984
3,4	Turning Points 3,4	Lantorno & Papa	Addison-Wesley	1989
3,4	Turning Points 3,4 Workbook	Lantorno & Papa	Addison-Wesley	1989
1	Grammar in Action	Foley & Dowling	Heinle & Heinle	1990
2	A New Beginning	Church, Hyzer, & Niedermeier	Prentice-Hall	1988
9-12	LADO English Series	Lado	Prentice-Hall	1984
9-11	Contact U.S.A. Vocabulary	Paul Abraham	Prentice-Hall	1990
9	E.S.L. Literacy	Diane Longfield	Delta Systems	1987
9-12	American Short Stories	Jean S. Prollen	Prentice-Hall	1981
12	Turning Points: Tests & Drills	Ianous Papa	Addison Wesley	1981
10	What's the Story	Lisa Daksties	Longman	1988
11	English Grammar	Robert Dixon	Latin-Aremad Press	1988

*Information was not provided.

APPENDIX A

Instructional Materials, cont'd.

N.L.A.

Grade	Title	Author	Publisher	Date of Publication
1-7	Chinese Native Language Arts 1-3, 5-7	Yi Sheng Liang	Hong Kong Ren Publisher Co.	1978
9-12	Korean Native Language Arts	Yi Sheng Liang	Korean Department of Education	1989
9-11	Intermediate Chinese Volumes 1-3	Beijing Language Institute	Beijing Language Institute	1988
10	Chinese for Today Volumes 1-4	Yushu Hu	Fudan University Press	1987
9-12	Chinese Language Book I-III	Yi Sheng Liang	Hong Kong People's Publishing House	1978
9-12	Chinese Language Arts Volumes I-III	E.S.E.A. Title VII Lesley College	Evaluation, Dissemination, and Assessment Center	1988
9-12	Perspectuas culturales de Hispano America	Kathy Ibarro	National Textbooks	1987
9-10	España y su civilización	Ugante	Odyssey	1976

APPENDIX A

Instructional Materials, cont'd.

Mathematics

Grade	Title	Author	Publisher	Date of Publication
*	Achieving Competence	Mandery & Schneider	Amsco	1987
9-12	Integrated Mathematics	Keenan and Gartert	Amsco	1992
9-12	Integrated Mathematics I-IV	Dressler & Keenan	Amsco	1989

Science

Grade	Title	Author	Publisher	Date of Publication
*	Concepts & Challenges in Physical Science	Bernstein & Wolfe	Globe Book Co., Inc.	1989
*	Biology: An Every-day Experience	Kaskel & Daniel	Charles E. Merrill	1985
9	Modern Biology	James Otto & Albert Towle	Holt, Rinehart and Winston	1985
10	Introduction to Physical Science	Leyden, Johnson, & Barr	Addison-Wesley	1988
9-12	Concepts in Modern Biology	David Krans	CLABE Book	1979
9-12	Biology and Human Progress	Charles Tanzen	Prentice-Hall	1986

*Information was not provided.

APPENDIX A

Instructional Materials, cont'd.

Social Studies

Grade	Title	Author	Publisher	Date of Publication
*	Exploring the Non-Western World	Schwartz	Globe Book Co., Inc.	1988
*	World History	Bernstein	N.Y.C. Board of Education	1990
*	Globe Studies I, II	Mooney	N.Y.C. Board of Education	1990
*	The Pageant of World History	G. Leinwand	Allyn and Bacon	1986
10	World History for A Global Age	Jack Abramowitz	Globe Book Co., Inc.	1985
11	Foundations in American History	H. Schwach	Globe Book Co., Inc.	1987
11	Comprehension as History	Roberts	Arnsco	1990
9-12	Exploring World History	Holt & O'Connor	Globe Book Co., Inc.	1990

*Information was not provided.

APPENDIX B

Class Schedules

Grade 9

Days	Period	Subject
M-F	8:45 - 9:20	Bilingual Science (Chinese II)
M-F	9:20 - 9:55	E.S.L. II Reading
M-F	9:55 - 10:30	Bilingual Social Studies (Chinese)
M-F	10:30 - 11:05	Physical Education
L U N C H		
M-F	1:25 - 2:00	Sequential Math
M-F	2:00 - 2:25	E.S.L. Grammar II
M-F	2:25 - 3:00	N.L.A. Chinese

Grade 10

Days	Period	Subject
M-F	8:45 - 9:20	E.S.L. Grammar
M-F	9:20 - 9:55	Sequential Math Honors
M-F	9:55 - 10:30	E.S.L. Reading IV
L U N C H		
M-F	12:15 - 12:50	Biology 2
M-F	12:50 - 1:25	Bilingual Social Studies IV
M-F	1:25 - 2:00	Chinese VI

APPENDIX B

Class Schedules, cont'd.

Grade 11

Days	Period	Subject
M-F	8:45 - 9:20	Physical Education
M-F	9:20 - 9:55	Sequential Math
M-F	9:55 - 10:20	Transitional E.S.L.
M-F	10:20 - 10:55	Choir
M-F	10:55 - 11:30	General Chemistry
L U N C H		
M-F	12:15 - 12:50	N.L.A. Chinese 6
M-F	12:50 - 1:25	American History

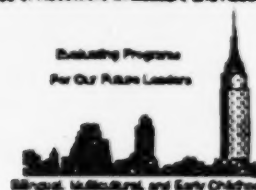
Grade 12

Days	Period	Subject
M-F	8:45 - 9:20	Typing I
M-F	9:20 - 9:55	N.L.A. Chinese
M-F	9:55 - 10:30	Government
L U N C H		
M-F	12:15 - 12:50	E.S.L. Workshop
M-F	12:50 - 1:25	E.S.L. 5
M-F	1:25 - 2:00	Sequential Math
M-F	2:00 - 2:25	Hygiene

APPENDIX C

BILINGUAL, MULTICULTURAL, AND EARLY CHILDHOOD EVALUATION
OFFICE OF RESEARCH, EVALUATION, AND ASSESSMENT
BOARD OF EDUCATION OF THE CITY OF NEW YORK
110 LIVINGSTON STREET, ROOM 732
BROOKLYN, N.Y. 11201
(718) 935-3790

Office of Research, Evaluation, and Assessment



Student Assessment

Spring 1993

Program: **Project ABACUS**

1 2
1 2

Directions: Please write the numbers that show how you feel in the boxes on the right.

1. Project ABACUS helped me keep in closer contact with my native culture.

Did not help
me at all

|_|_|_|_|
1 2 3 4 5

Helped me
a lot

3

2. By keeping in contact with my native culture, I will learn more about myself.

Not true
at all

|_|_|_|_|
1 2 3 4 5

Very true

4

3. Because of Project ABACUS, I am more interested in continuing my education next year.

NOT true
at all

|_|_|_|_|
1 2 3 4 5

Very
true

5

4. Project ABACUS has helped me to do better in school.

Did **NOT** help
me at all

|_|_|_|_|
1 2 3 4 5

Helped me
a lot

6

6. Project ABACUS has helped me understand the need to prepare for my future at at college or in a career.

Did **NOT** help
me at all

|_|_|_|_|
1 2 3 4 5

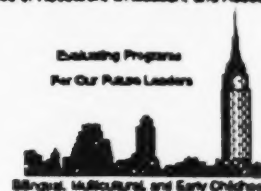
Helped me
a lot

7

Thank you for completing this form.

BILINGUAL, MULTICULTURAL, AND EARLY CHILDHOOD EVALUATION
 OFFICE OF RESEARCH, EVALUATION, AND ASSESSMENT
 BOARD OF EDUCATION OF THE CITY OF NEW YORK
 110 LIVINGSTON STREET, ROOM 732
 BROOKLYN, N.Y. 11201
 (718) 935-3790

Office of Research, Evaluation, and Assessment



Staff Awareness

Spring 1993

1	2
8	9

Program: **Project ABACUS**

Directions: Please write the numbers that show how you feel in the boxes on the right.

1. Since participating in Project ABACUS, to what degree have you become **more aware** of students' needs?

Not more aware
at all

1	2	3	4	5
---	---	---	---	---

Extremely
aware

10

2. Since participating in Project ABACUS, to what degree have you become **more aware** of students' problems?

Not more aware
at all

1	2	3	4	5
---	---	---	---	---

Extremely
aware

11

3. What is your overall assessment of the project?

Poor
quality

1	2	3	4	5
---	---	---	---	---

Superior
quality

12

4. List what you consider to be the three most significant needs/problems that students have.

Thank you very much for your assistance.